

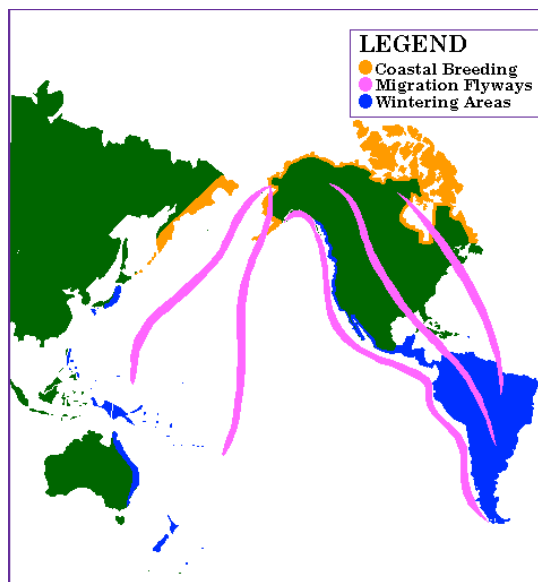
# Field Report

## Bear River Migratory Bird Refuge

### ■ 1.0 Summary

The Bear River Migratory Bird Refuge at Brigham City, Utah, was created in 1929 by the USFWS. The purpose of the refuge has been to “provide a suitable refuge and feeding, and breeding grounds for migratory wildfowl.” The refuge is located on the eastern edge of the Pacific Flyway and the western edge of the Central Flyway (see Figure 1). Within the refuge, over 200 species of birds have been recorded and over 60 species breed in the refuge.

**Figure 1. Western Hemisphere Flyways**



In 1991, the refuge was designated as a Western Hemispheric Shorebird Reserve.

Two consecutive years of 100 years floods of the Great Salt Lake resulted in inundation of the refuge with salt water in 1983. Salt water flooding completely destroyed all of the vegetation, buildings and many of the water control structures located throughout the refuge. By 1989, the flood waters had receded, however, the process of cleaning a restoration of the refuge could not occur overnight. Receding water left deposits of salt and other minerals that have resulted in a slow recovery of the refuge vegetation; which is required in order to sustain a bird population.

The slow process of restoration is nearly complete, including an increased awareness of the potential impacts associated with the proximity and makeup of the Great Salt Lake. The area has emerged from the virtual destruction of the refuge with a stronger commitment that is expressed through the Friends of the Refuge, a non-profit organization focusing on maintenance and promotion of the refuge.

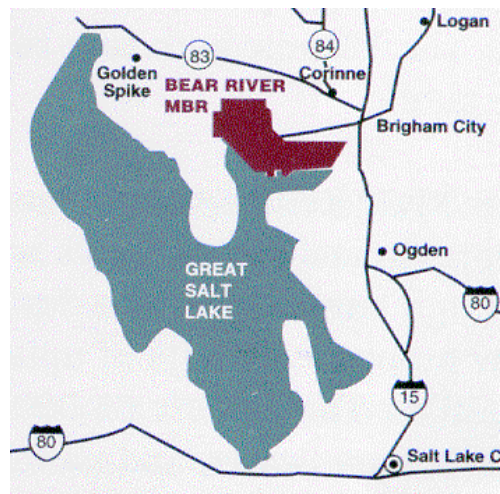
Visitation at the refuge has rebounded to approximately 30,000 persons per year (1998). With the relatively low visitation and distribution of the visitation over the year, transit is not considered a viable alternative for the facility.

## ■ 2.0 Background Information

### 2.1 Location

The Bear River Migratory Bird Refuge is located approximately 15 miles west of Brigham City, Utah along an extension of Forest Street. Brigham City is located approximately 55 miles north of Salt Lake City. The regional location is displayed in Figure 2.

**Figure 2. Regional Locations**



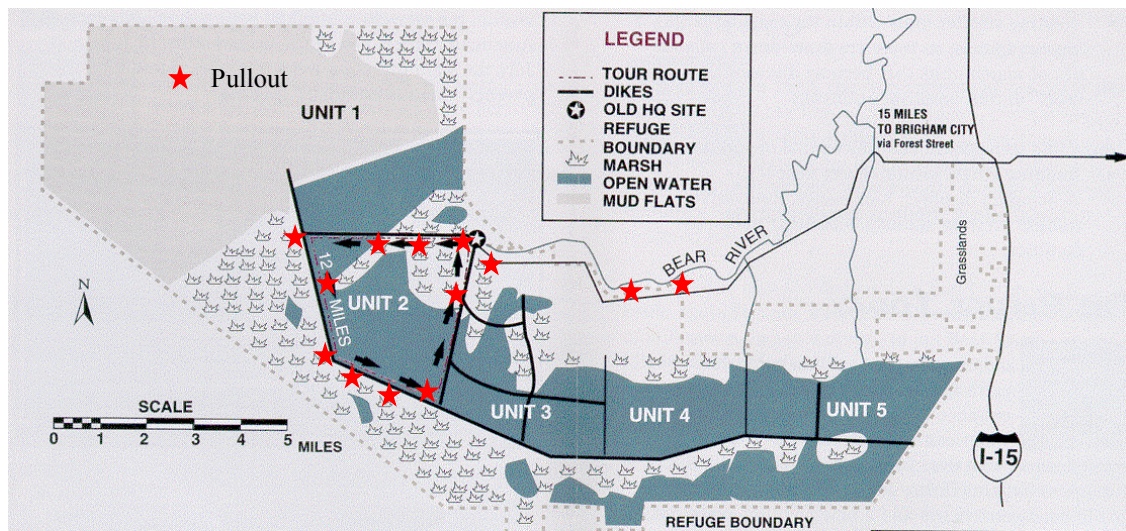
### 2.2 Administration and Classification

The Bear River Migratory Bird Refuge is managed by the USFWS. The site manager is Alan Trout.

## 2.3 Physical Description

The refuge, displayed in Figure 3, is located on 74,000 acres of open water, marsh, uplands and mud flats. The original refuge (circa 1929) was approximately 65,000 acres and was expanded through a 9,000-acre land purchase in 1993-1994. Access within the refuge is restricted to designated trails and roadways, as well as open waterways during designated hunting seasons. The Bear River channel upstream from the Old Headquarters site is open to the public. Facilities within the refuge are few and relatively basic, including:

**Figure 3. Site Layout**



- Twelve-mile auto/bike tour route. The route is gravel/dirt surface. There are no plans to pave the route. The auto route is open daily, except for the period from January through mid-March.
- Old Headquarters site: The area includes vehicle parking, a small picnic area, a fishing pier, restrooms (vault-type system/no running water) that are fully accessible.
- Pull-outs with limited parking area are located intermittently along the auto route. Pull-out locations are displayed in Figure 3. Pull-out areas include visitor interpretive kiosks containing information about resources at the refuge.

## 2.4 Mission and Goals of the Bear River Migratory Bird Refuge

The Bear River Migratory Bird Refuge serves two primary purposes in the overall USFWS plan:

- Feeding, nesting and breeding grounds for wildfowl along the Pacific and Central Flyways; and
- Provide a facility for public education and viewing enjoyment of wildfowl.

As a means of documenting the goals and objectives for users, the Public Use and Education Master Plan was prepared and is periodically updated. The most recent update was December 1997. User objectives documented in the most recent master plan were divided into the following categories; educational, emotional and motivational experiences. Documented in the following bullet points are the key elements of each program:

### ***Educational Objectives***

Through their trips, visitors should gain an understanding of:

1. The dynamic nature of the Bear River Migratory Bird Refuge; how the refuge functions and how it relates to the Greater Salt Lake Ecosystem; the refuge's importance in local, national, hemispheric and global perspectives as a major migratory shorebird and waterfowl stopover;
2. What wetlands are and their importance as a part of the overall ecosystem;
3. The potential threats to the wetlands (construction, draining, pollution, toxic wastes, etc.);
4. The recreational opportunities associated with the refuge and the Bear River;
5. The association between the refuge and the Great Salt Lake;
6. The importance of the Great Salt Lake and the refuge to birds of special concern (trumpeter swans, snowy plover, redneck ducks, white-faced ibis, white pelican, phalarope, bald eagle and peregrine falcon);
7. History of human interaction;
8. The reasons birds migrate;
9. The life cycles of wildlife, including why certain species need to be left undisturbed; and
10. Programs and techniques employed by USFWS in restoring, preserving and managing the refuge and other wetlands.

### ***Emotional Objectives***

During and following their visit, patrons should feel:

1. Sense of respect and awe for the natural process;
2. An appreciation for the refuge and its associated wetlands;
3. Sense of excitement about interacting with the refuge through exploration of the many facets of the ecosystem;
4. Responsibility for conserving natural resources;
5. They can help in the effort to preserve wetlands;
6. Wanted and welcome at the Headquarters and Education Center, as well as other public use facilities;
7. Appreciation of the concept of varying perspectives regarding the wetlands; and
8. Positively about the USFWS and other agencies in the work that is being accomplished.

### ***Motivational Objectives***

As a result of the information taken away from a visit, people should:

1. Visit other interpretive/recreational sites around the region that afford similar opportunities;
2. Engage in other recreational experiences involving wetlands;
3. Utilize interpretive information obtained from the refuge;
4. Tread lightly when visiting the refuge and other wetlands;
5. Visit other wetland interpretive sites;
6. Learn more about wetlands;
7. Get involved in conservation efforts for protecting wetlands; and
8. Actively support the refuge's programs by getting involved with the "Friends" group.

## **2.5 Visitation Levels and Visitor Profile**

The Bear River Migratory Bird Refuge visitation in 1988 was approximately 30,000 people. Visitation to the refuge was impacted significantly by flooding from the Great Salt Lake.

In the period from 1984 through 1989, the facility was essentially closed to the public. From 1990 through 1998, visitation has rebounded dramatically. Visitation in 1990 was approximately 12,000 people and, except for declines in 1991 and 1992, has grown each year.

Visitation patterns are generally as follows:

- Spring peak (April through June) – Bird watching peak.
- Fall peak (October through November) – Hunting season peak.
- Weekend days are peak days throughout most of the season. Sunday is the peak day with approximately 30 percent of the weekly visitation.
- Length of stay – The latest study was completed in 1971. From that study, it was reported that the average stay was approximately two hours. There was a slight variation based on the distance traveled to get to the park (divided into less than 50 miles and more than 50 miles), but the variation was minor.
- For most of the visitors (80 percent) the refuge was the primary reason for their visit to the area. Visitors who were “passing through” the area accounted for approximately 17 percent of the total users.
- Most visitors to the refuge are repeat clients. From the 1971 study approximately 63 percent of the visitors had been there before.
- Most users are from the local area.
- Demographics of users: In 1971 (the last study date), approximately 42 percent of the visitors were under 18, 52 percent in the range from 18 to 64 years of age.
- Reasons for visits reported by users: Sightseeing, observe birds and hunting waterfowl.

## ■ 3.0 Existing Conditions, Issues and Concerns

### 3.1 Transportation Conditions, Issues and Concerns

During the typical day, transportation is not a significant issue for the refuge. The most significant transportation concerns are:

- Poor condition of the access road. The paved surface ends approximately seven to eight miles from the refuge. Travel conditions on the road are variable throughout the year. At times the road is impassable except with four-wheel drive vehicles. Staff have encountered potential visitors turning around on the access road prior to reaching the refuge. Improving the access route would improve emergency vehicle access, which is required from time to time, especially during the designated hunting season.

- There are small turnout areas periodically along the auto route. Staff would like to see these areas enhanced to improve safety and add parking.
- Security at the refuge has not been a significant issue, however, staff have some concerns about unauthorized access to the site (it is closed after dark). An access route gate would increase the level of site access control.

Transit service is provided in Brigham City by the Utah Transit Authority (UTA). Two routes serve Brigham City, providing intra-community circulation and inter-city connections to Ogden. No transit service is provided to the refuge.

The Utah Department of Transportation has been studying commuter rail connections throughout the Wasatch Front. Brigham City is located such that access to commuter rail would be feasible, should the DOT go forward with implementation of a system.

An eight-foot-wide trail adjacent to Forest Street connects downtown to I-15. Engineering studies are ongoing for upgrading the county access route to the refuge. USFWS has allocated \$500,000 for work in 1999-2000 on the engineering.

### **3.2 Community Development Conditions, Issues and Concerns**

Brigham City is the gateway community for the refuge. The refuge is a significant element of Brigham City's recreational/tourism economy. Brigham City is a community of approximately 16,600 residents (1994 estimate), and Box Elder County has a population of approximately 41,000 persons.

Principal industries in the community include Autoliv (manufacturer of airbag elements), Thiokol (rockets/engines), Lazyboy, Flying J Headquarters (truck stops), WalMart Distribution Center (located in Corrine approximately eight miles away). A Malt-O-Meal plant is located in Tremont, approximately 12 miles north of Brigham City.

Box Elder County has prepared the following documents relative to planning activities in the area:

- *Box Elder County Comprehensive Wetlands Management Plan* (1999); and
- *Box Elder County General Plan* (1998).

Brigham City has recently updated their Comprehensive Plan.

Development ideas and plans that may impact the refuge are limited. Area around the refuge is privately held by a few land owners (generally hunting clubs). There are no plans for development of these areas.

### **3.3 Natural or Cultural Resource Conditions, Issues and Concerns**

The refuge is comprised of a combination of marshland, open water channels of the Bear River, mud flats and limited uplands. When asked about potential concerns, none were expressed, with the exception of potential flooding of the Great Salt Lake. As has been witnessed in the recent past, lake flooding can result in virtually complete inundation of the refuge and destruction of the habitat and structures.

### **3.4 Recreation Conditions, Issues and Concerns**

Principal recreation activities at the refuge are bird watching and hunting. The only issues identified were some concerns with mixing the two activities.

## **■ 4.0 Planning and Coordination**

### **4.1 USFWS Plans**

USFWS and the community are planning construction of an educational center in the southwest quadrant of I-15/Forest Street. The general location and site plan for the proposed facility are displayed in Figures 4 and 5. The facility is proposed to include:

- Refuge Headquarters and Education Center;
- Interpretive trails/boardwalk;
- Education station shelter; and
- Maintenance offices and facilities.

The purpose of the headquarters facilities is to enhance the overall refuge visit experience. Both the refuge and the headquarters facilities should be evaluated as an integrated unit. Construction cost estimates for the facilities are approximately \$7.5 million for center building and approximately \$1.4 million for site development.

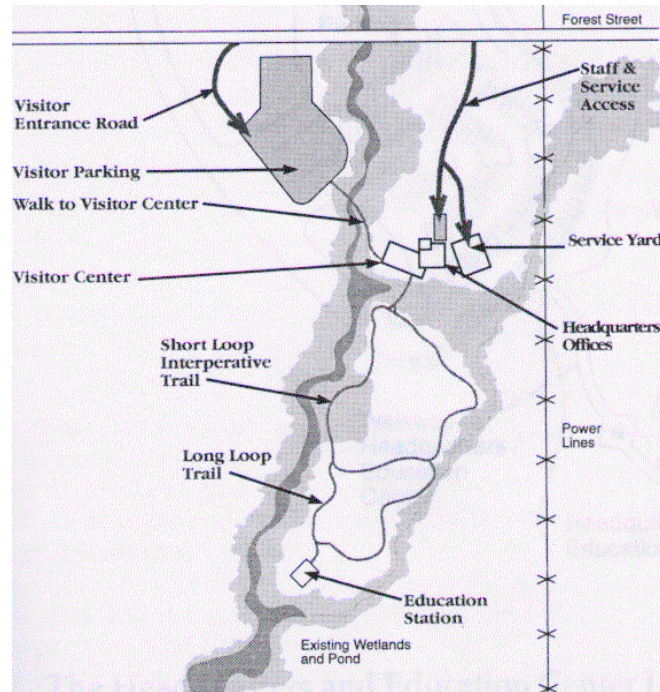
### **4.2 Public and Agency Coordination**

As part of an integrated County plan, expanding tourism has been addressed as a key economic development tool. The County envisions connecting the refuge with other tourist destinations/activities in the County, including:

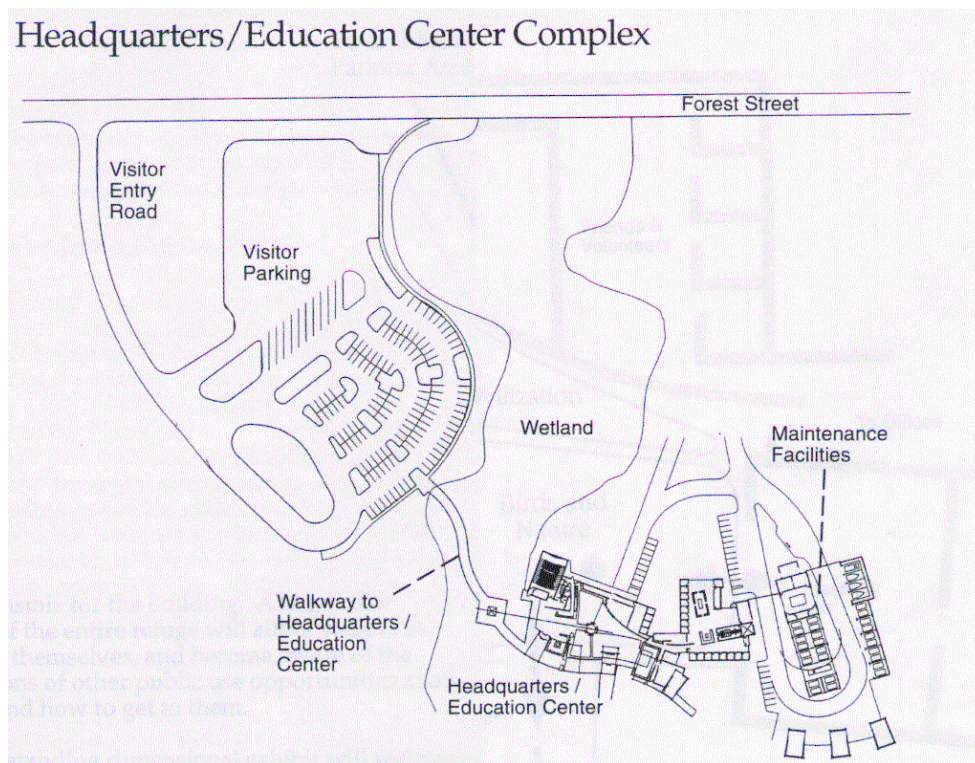
- Golden Spike National Historic Site;
- Thiokol Rocket Museum; and
- Centennial Tour Train.



**Figure 4. Proposed Education Center/Headquarters Site Layout**



**Figure 5. Internal Site Layout (Detail)**



County planning participants are interested in developing a loop route that would provide improved access between communities and activities (Rocket Museum) to the north of the refuge. At present, an “out and back trip” is required to access the refuge. Participants believe creating a loop route that connected the refuge to other activity centers could be marketed to a broader audience. No specific analysis of this service has been initiated.

## ■ 5.0 Assessment of Need and System Options

### 5.1 Magnitude of Need

The level of Alternative Transportation Systems (ATS) need for the site is moderate to low. Visitation is relatively low and traffic is not generally a concern. The site access road, however, is in need of significant improvement (paving). In addition, the following safety or alternative mode improvements should be explored:

- Providing an entrance gate to enhance security/safety.
- Include a paved bike route on either the shoulder of the access route or in an adjacent corridor. Traffic volumes on the route are relatively light (several hundred vehicles per day). Thus, incorporating a bike lane into the shoulder would be acceptable.
- Evaluate potential use of the Bear River as a short trip length mode of travel within the refuge.

### 5.2 Range of Feasible Transit Alternatives

Based on the relatively light use, a portion of the users transporting firearms and limited season of activity, transit is not considered a viable alternative.

## ■ 6.0 Bibliography

*Box Elder County General Plan*, Spring 1998.

*Bear River Migratory Bird Refuge Public Use and Education Master Plan*, December 1997.

*Box Elder County Comprehensive Wetlands Management Plan*, August 1999.

## ■ 7.0 Persons Interviewed

Alan Trout, USFWS/Site Manager

Jerry Mason, Utah Wildlife Federation/Box Elder County Economic Development

Bryce Hoderlie, Brigham City Corporation/City Building Inspection

Bruce Leonard, Brigham City Corporation/Director of Public Works

Jim Davis, Brigham City Council

Beth Gurrister, Box Elder County Economic Development

Susan Thakeray, Box Elder County Economic Development

Paul Larsen, Brigham City Planning

Cindy Monson, Brigham City Area Chamber of Commerce